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MassDEP RTN 3-23246

Class B-1 Response Action Outcome Partial Statement for 142-146 Cross Street, Somerville, Massachusetts

50 Tufts Street Site, Somerville, Massachusetts

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GEI

Submitted to:
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Executive Summary

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this Class B-1 Response Action Outcome Partial (RAO-P) Statement for 142-146 Cross Street, Somerville, Massachusetts (the Property), which is a portion of the 50 Tufts Street site (the Site; Fig. 1). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. A Site Map that shows the Property in relation to the Site boundary is presented in Fig. 2. This document provides closure for a portion of the Site under the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) and indicates that a condition of No Significant Risk (NSR) exists at the Property.

A release of chlorinated volatile organic compounds (VOCs) to soil and groundwater at the Site was first reported to the MassDEP in 2002. Subsequent investigations at the Site identified chlorinated VOCs, particularly tetrachloroethylene (also called perchloroethylene [PCE]), in indoor air at 50 Tufts Street, and in groundwater and indoor air at residential and commercial properties in the vicinity of 50 Tufts Street.

There is no groundwater monitoring well located at the Property. However, based on the concentration of chlorinated VOCs detected in groundwater in a monitoring well located approximately 10 feet north of the Property, the concentration of PCE in shallow groundwater at the Property is expected to be less than or only slightly above the laboratory reporting limit of 1 microgram per liter. The Property is located within the Site solely due to its location near low concentrations of groundwater contamination in the overburden.

Based on the following lines of evidence, GEI concludes that the vapor intrusion pathway is incomplete at the Property:

- Residual or connected-phase dense non-aqueous phase liquid has not been detected at or near the Property.
- The Property is located upgradient from the release at 50 Tufts Street, and the chlorinated VOCs previously detected in groundwater samples collected near the Property (MW105) are less than the MCP Method 1 GW-2 standards. In addition, because chlorinated VOCs have been detected only slightly above laboratory reporting limits in the vicinity of Alston Street, MassDEP has indicated that vapor intrusion is not a concern in this portion of the Site.
- Chlorinated VOCs have not been detected above laboratory reporting limits in soil near the Property.

- PCE and 1,1,1-trichloroethane (TCA) were detected in soil vapor samples collected from the soil vapor beneath the building on the Property at concentrations below the residential soil vapor screening criteria presented in the MassDEP Guidance "WSC No. 11-435: Interim Final Vapor Intrusion Guidance," dated December 2011. Detections of VOCs at concentrations below the residential screening criteria indicate that a complete vapor intrusion pathway at the Property is unlikely.
- Chlorinated VOCs were not detected above laboratory reporting limits in indoor air samples collected from the basement and first floor of the building on the Property. The laboratory reporting limits for the chlorinated VOCs associated with the Site are less than the Residential Threshold Values (TVr) presented in the December 2011 MassDEP guidance.

A Class B-1 RAO-P Statement is appropriate for the Property based on the following:

- Remedial actions were not conducted and a Permanent Solution has been achieved.
- A condition of NSR to human health, safety, public welfare, and the environment exists for all receptors.
- An Activity and Use Limitation is not required to maintain a condition of NSR.

1. Introduction

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) of Woburn, Massachusetts prepared this Class B-1 Response Action Outcome Partial (RAO-P) Statement for 142-146 Cross Street, Somerville, Massachusetts (the Property), which is a portion of the 50 Tufts Street site (the Site; Fig. 1). The Site includes 50 Tufts Street, surrounding residential and commercial properties to the east and immediately west of 50 Tufts Street, and the Michael E. Capuano Early Childhood Center (Capuano Center). A Site Map that shows the Property in relation to the Site boundary is presented in Fig. 2. Chlorinated volatile organic compounds (VOCs), particularly tetrachloroethylene (also called perchloroethylene [PCE]), have been detected in soil, groundwater (shallow and deep overburden, and bedrock), soil vapor, and indoor air at portions of the Site.

This document provides closure for the Property, which is a portion of the Site under the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000), and indicates that a condition of No Significant Risk (NSR) exists at the Property.

The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. The "Immediate Response Action Plan" associated with RTN 3-23246 was submitted to MassDEP on January 9, 2006. The Site is currently classified Tier IC (Permit No. W085813). The "Phase II Comprehensive Site Assessment, Method 3 Risk Characterization, and Phase III Remedial Action Plan," (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The "Phase IV Remedy Implementation Plan," (Phase IV) was submitted to MassDEP on August 10, 2009. The "Immediate Response Action Completion Report and Remedial Monitoring Report No. 11," (IRAC Report) was submitted to MassDEP on November 13, 2009, and the "Immediate Response Action Completion Report Addendum," was submitted to MassDEP on April 1, 2011. The "Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report," was submitted to MassDEP on August 4, 2011.

1.1 Purpose

The purpose of this Class B-1 RAO-P Statement, in accordance with the requirements of the MCP, is to document that a Permanent Solution has been achieved for the Property.

1.2 Scope

The scope of this Class B-1 RAO-P Statement for the Property is to:

- Provide a summary of the environmental conditions.
- Evaluate the risk to human health, safety, public welfare, and the environment at the Property.
- Demonstrate that the applicable requirements for a Class B-1 RAO-P have been achieved.

1.3 Submittals

The original MassDEP transmittal form (BWSC-104) was submitted online via eDEP and a copy is included in Appendix A. As required by the MCP (310 CMR 40.1403[3][f]), GEI submitted letters to the Somerville Chief Municipal Officer and the Board of Health notifying them of the availability of this Class B-1 RAO-P Statement. Copies of the notification letters are in Appendix B.

1.4 Public Record

Documents related to the environmental investigations conducted at the Site are on file with the MassDEP Northeast Regional Office located at 205B Lowell Street in Wilmington, Massachusetts. Additionally, local public document repositories have been established at the Somerville Central Public Library and at the City of Somerville Clerk's Office. GEI also provides electronic versions of the repository documents to the City for posting to its web site.

1.5 Contact Information

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1.6 Conceptual Site Model

GEI developed this Conceptual Site Model (CSM) to describe release mechanisms, contaminant distribution, and potential exposure pathways associated with the Property. The CSM is based upon the investigation data documented in the Phase II/III and the IRAC Report. Site features associated with the CSM are shown in Fig. 2.

1.6.1 Property Location and Description

The Property is located within the Site boundary associated with a release of chlorinated VOCs to soil and groundwater at 50 Tufts Street, located approximately 125 feet (ft) east of the Property. The Property is located in a commercial/residential zoning district, fronts Cross Street to the north and Alston Street to the west, and is bounded by residential property to the south and Massachusetts Bay Transportation Authority (MBTA) railroad tracks to the east. The Property is occupied by a commercial building.

1.6.2 Contaminant Distribution

From approximately 1955 to approximately 2002, 50 Tufts Street was used for storage and distribution of industrial chemicals, laundry supplies, and dry cleaning supplies. Chemicals stored at and delivered to and from 50 Tufts Street included chlorinated solvents. These chlorinated VOCs – particularly PCE, trichloroethylene (TCE), and 1,1,1-trichloroethane (TCA) – have been detected in soil, soil vapor, indoor air, and groundwater at 50 Tufts Street. A release of chlorinated VOCs to soil and groundwater at the Site was first reported to MassDEP in 2002.

Chlorinated VOCs generally have not been detected in soils beyond the boundaries of 50 Tufts Street. Chlorinated VOCs have been detected at the Site in the shallow and deep overburden and bedrock groundwater. There is no groundwater monitoring well located at the Property. However, based on the concentrations of chlorinated VOCs detected in groundwater in a monitoring well located approximately 10 ft north of the Property (MW105), the concentration of PCE in groundwater at the Property is expected to be less than or only slightly above the laboratory reporting limit of 1 microgram per liter (µg/l).

The western boundary of the Site is based on the lateral extent of the shallow overburden groundwater plume, where low concentrations of PCE have been detected in groundwater collected from wells in the overburden aquifer (Fig. 2). The Property is located within the Site solely due to its location near low concentrations of groundwater contamination in the overburden.

2. Property Investigations

Since March 2006, GEI has conducted subsurface investigations that included collecting soil, groundwater, soil vapor, and indoor air samples across the Site for laboratory testing. The investigations that are representative of conditions at the Property are summarized below. The laboratory reports associated with the majority of these investigations have been submitted to MassDEP under previous submittals, and are not re-presented in this report.

2.1 Groundwater Sampling

There is no groundwater monitoring well located at the Property. However, the concentrations of chlorinated VOCs detected in groundwater samples collected from monitoring well MW105, located approximately 10 ft north of the Property on Cross Street, are considered to be representative of groundwater conditions at the Property. Depth to groundwater is approximately 20 ft below ground surface (ft bgs).

Seventeen groundwater samples have been collected from MW105, a well screened between 19 and 29 ft bgs, between May 2006 and April 2012. The groundwater samples were submitted to Accutest Laboratories (Accutest) of Marlborough, Massachusetts for analysis of VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B. Laboratory testing results for groundwater samples collected from MW105 are summarized in Table 1.

The following compounds were detected above laboratory reporting limits in at least one groundwater sample collected from MW105: 1,3-dichlorobenzene, dichlorodifluoromethane, PCE, and TCE. 1,3-dichlorobenzene and dichlorodifluoromethane were detected at low concentrations, but are not related to the Site. PCE has not been detected above laboratory reporting limits in MW105 during the last 14 monitoring events. TCE was detected at low concentrations slightly above the laboratory reporting limits in MW105 during 15 of the 17 monitoring events, and was not detected above the laboratory reporting limit in the other 2 monitoring events. Although the MCP Method 1 GW-2 Standard is not applicable at the location of MW105 because the depth to groundwater is greater than 15 ft (approximately 20 ft bgs), the measured concentrations of PCE and TCE were consistently below their respective GW-2 standards, which indicates there is limited potential for a complete vapor intrusion pathway. The measured concentrations are also below the applicable MCP Method 1 GW-3 standards.

2.2 Soil Sampling

During the installation of monitoring well MW105, soil samples were collected from 2 to 3 ft bgs (MW105S1) and 23 to 25 ft bgs (MW105S9). The samples were submitted to Accutest for VOC analysis by EPA Method 8260B. Chlorinated VOCs were not detected above the laboratory reporting limits. The laboratory testing results for these soil samples are summarized in Table 2.

2.3 Soil Vapor Sampling

Two sub-slab soil vapor samples were collected beneath the building on the Property on April 18, 2007. GEI submitted the samples to Accutest for VOC analysis by EPA Method TO-15 for the following site-specific list of analytes:

- Carbon tetrachloride
- Chloroethane
- 1,1-Dichloroethane
- 1,2-Dichloroethane
- 1,1-Dichloroethylene
- cis-1,2-Dichloroethylene
- trans-1,2-Dichloroethylene
- 1,1,2,2-Tetrachloroethane
- Tetrachloroethylene (PCE)
- 1,1,1-Trichloroethane (TCA)
- 1,1,2-Trichloroethane
- Trichloroethylene (TCE)
- Vinyl Chloride

PCE and TCA were detected above the laboratory reporting limits in the soil vapor samples collected from the Property, with the maximum detected concentrations being 6.4 micrograms per cubic meter ($\mu g/m^3$) of PCE and 1.7 $\mu g/m^3$ of TCA, which are below the residential screening criteria (98 $\mu g/m^3$ and 210 $\mu g/m^3$, respectively) presented in the MassDEP Guidance "WSC No. 11-435: Interim Final Vapor Intrusion Guidance," dated December 2011. Although the Property is currently a commercial building, we compared the soil vapor concentrations to residential criteria as a conservative measure. Detections of VOCs at concentrations below the applicable residential screening criteria indicate that a complete vapor intrusion pathway at the Property is unlikely. The laboratory testing results are summarized in Table 3.

2.4 Indoor Air Sampling

Indoor air samples were collected in November 2007, June 2008, and January 2009 from the first floor and basement of the building on the Property. Indoor air samples were collected over

an approximately 4-hour period using SUMMA® canisters and regulators provided by Accutest. Indoor air samples were submitted to Accutest for analysis by EPA Method TO-15.

Chlorinated VOCs were not detected above the laboratory reporting limits. The laboratory reporting limits for the chlorinated VOCs associated with the Site are less than the Residential Threshold Values (TVr) presented in the December 2011 MassDEP guidance. The laboratory testing results for these indoor air samples are summarized in Table 4.

3. Evaluation of Vapor Intrusion Pathway

All pertinent data were reviewed and considered to evaluate the potential for a complete vapor intrusion pathway on the Property. Based on the following lines of evidence, there is no such complete vapor intrusion pathway:

- Residual or connected-phase dense non-aqueous phase liquid has not been detected at or near the Property.
- The Property is located upgradient from the release at 50 Tufts Street, and the chlorinated VOCs previously detected in groundwater samples collected near the Property (MW105) are less than the MCP Method 1 GW-2 standards. Although the Method 1 GW2 Standard is not applicable at the Property because the depth to groundwater is likely greater than 15 ft bgs, we have considered it applicable as a conservative measure. In addition, because chlorinated VOCs have been detected only slightly above laboratory reporting limits in the vicinity of Alston Street, MassDEP has indicated that vapor intrusion is not a concern in this portion of the Site.
- Chlorinated VOCs have not been detected above laboratory reporting limits in soil near the Property.
- PCE and TCA were detected in soil vapor samples collected from the soil vapor beneath the building on the Property at concentrations below the residential screening criteria presented in the December 2011 MassDEP guidance. Although the Property is currently a commercial building, we compared the soil vapor concentrations to residential criteria as a conservative measure. Detections of VOCs at concentrations below the residential screening criteria indicate that a complete vapor intrusion pathway at the Property is unlikely.
- Chlorinated VOCs were not detected above laboratory reporting limits in indoor air samples collected from the basement and first floor of the building on the Property. The laboratory reporting limits for the chlorinated VOCs associated with the Site are less than the TVr presented in the December 2011 MassDEP guidance.

4. Method 1 Risk Characterization

Four Site-wide Method 3 Risk Characterization Reports were previously prepared for the Site. The July 2008 Phase II/Phase III included a Method 3 Risk Characterization for the Site, prepared by AMEC Earth & Environmental (AMEC) of Westford, Massachusetts. In response to MassDEP comments, AMEC prepared a Supplemental Method 3 Risk Characterization (Supplemental Risk Characterization) in May 2009. The Supplemental Risk Characterization evaluated potential risks using the framework in the July 2008 Method 3 Risk Characterization, including an indoor air Exposure Assessment for each affected residence without an effective Exposure Pathway Elimination Measure (EPEM). A Revised Supplemental Risk Characterization was prepared to support the IRAC Report. Potential risks presented in the Supplemental Risk Characterization were updated in the Revised Supplemental Risk Characterization to reflect additional data collection and additional EPEMs installed by GEI. An Updated Revised Supplemental Risk Characterization was prepared by ARCADIS U.S., Inc. of Chelmsford, Massachusetts in April 2011 to respond to a MassDEP Notice of Audit Findings and Notice of Noncompliance for the IRAC Report.

Based on all lines of evidence, there is not a complete vapor intrusion pathway at the Property. Accordingly, a Method 1 Risk Characterization was completed for the Property (142-146 Cross Street Risk Characterization) in accordance with 310 CMR 40.0900 to support this RAO-P. A Method 1 Risk Characterization evaluates foreseeable Site uses, potential receptors, compounds of potential concern (COPCs), and exposure point concentrations (EPCs), and compares EPCs detected in soil and groundwater to MassDEP-derived standards. If the EPCs in soil and groundwater are less than the applicable Method 1 standards then a condition of NSR of harm to human health, public welfare, and the environment exists. In accordance with 310 CMR 40.0971(5), a separate characterization of the risk of harm to safety was also conducted.

A Method 1 Risk Characterization was appropriate for the Property because: 1) COPCs have not been detected at or near the Property in media other than groundwater, 2) MCP standards exist for the COPCs detected at or near the Property, and 3) compounds considered by MassDEP to bioaccumulate are not present within 2 ft of the ground surface.

4.1 Current and Reasonably Foreseeable Site Activity and Use

Consistent with the requirements of the MCP (310 CMR 40.0923), the 142-146 Cross Street Risk Characterization considered both current and future uses of the Property. The current use of the Property is commercial, and the reasonably foreseeable use of the Property is also

commercial. In addition, for the purposes of this risk characterization and consistent with MassDEP guidance, we have assumed that the Property could be redeveloped in the future for residential use.

4.2 Potential Human Receptors

Potential human receptors were identified based on current and foreseeable uses of the Property. Current use receptors at the Property are commercial employees. Likely future use receptors of the Property are future commercial employees and construction workers during potential future excavation/development activities. In addition, for the purposes of this risk characterization and consistent with the December 2011 MassDEP guidance, we have assumed that future use receptors include residents because the Site could be redeveloped for residential use.

4.3 Potential Environmental Receptors

The Property is in an urban area, is fully developed, and would not likely represent a potentially significant terrestrial habitat. Based on the scarcity of open land, the Property does not provide for exposures for potential terrestrial receptors.

The closest surface water bodies are the Mystic River, located approximately 1 mile northeast of the Property, and the Charles River, located approximately 1.7 miles south-southeast of the Property. Based on the distance to the nearest aquatic receptors and the current levels of COPCs in groundwater, the transport of COPCs in groundwater to surface water and sediment is not considered to be a significant exposure pathway.

4.4 Summary of Analytical Results

The environmental conditions at the Property have been characterized based on data collected in the immediate vicinity of the Property, as described in Section 2.

4.4.1 Soil

Chlorinated VOCs generally have not been detected in soils beyond the boundaries of the 50 Tufts Street property; therefore, soil samples were not collected at the Property. Chlorinated VOCs were not detected above the laboratory reporting limits in two soil samples collected during the installation of monitoring well MW105, located approximately 10 ft north of the Property (Table 2). Consequently, soil at the Property is not considered to be impacted by Site COPCs, and is not evaluated further in this risk characterization.

4.4.2 Groundwater

We reviewed and evaluated groundwater data for use in the Method 1 Risk Characterization to identify potential exposure points and derive EPCs based on the relevant groundwater categories identified for the Property. Groundwater data included in the Method 1 Risk Characterization are from a monitoring well located approximately 10 ft north of the Property (MW105), and are presented in Table 1.

4.4.3 Hot Spot Evaluation

Under the MCP (310 CMR 40.0924), hot spots must be considered as distinct exposure points. A hot spot is defined as a discrete area where the concentrations of oil or hazardous material (OHM) are substantially higher than those concentrations in the surrounding area. No "hot spots" have been identified at the Property.

4.5 COPCs

The following compounds were detected in at least one groundwater sample collected from shallow groundwater monitoring well MW105: 1,3-dichlorobenzene, dichlorodifluoromethane, PCE, and TCE.

The COPCs at the Site have been limited to certain chlorinated solvents, together with their associated breakdown products. 1,3-Dichlorobenzene and dichlorodifluoromethane have not historically been detected in groundwater above the laboratory reporting limits at the 50 Tufts Street property. Therefore, these compounds are not COPCs at the Site and are not evaluated further in this risk characterization for the Property.

4.6 Soil and Groundwater Categories

This section identifies and documents the applicable soil and groundwater categories, as described in the MCP (310 CMR 40.0930). The soil and groundwater categories are considered general indicators of the potential for exposure to OHM.

4.6.1 Soil Categories

Under the MCP, soil can be classified into one of three categories (S-1, S-2, or S-3). Category S-1 soil represents the highest potential exposure because it assumes unrestricted use of the soil (i.e., residential), whereas category S-3 soil represents the lowest potential for exposure. Commercial employees currently present at the Property are considered to have low frequency and low intensity contact with soil because the building occupies the entire

Property, and soil beneath the building is considered to be isolated. Therefore, soil located beyond 15 ft deep or beneath the building footprint is categorized as S-3.

For purposes of this risk characterization, all soil from 0 to 15 ft bgs at the Property is characterized as S-1. However, soil at the Property is not considered to be impacted by Site COPCs, and was not evaluated further in this risk characterization.

4.6.2 Groundwater Categories

The MCP identifies three groundwater categories which correspond to the following three distinct types of exposures:

- **Groundwater Category GW-1** applies to groundwater assumed to be a current or future source of drinking water.
- **Groundwater Category GW-2** applies to groundwater considered to be a potential source of vapors that could migrate through the soil and concentrate in indoor air of existing, occupied buildings. GW-2 is defined as groundwater located within 30 ft of an existing or planned building or structure that is or will be occupied, and the average annual depth to groundwater in that area is 15 ft or less.
- **Groundwater Category GW-3** applies to groundwater that is assumed to discharge to surface water. All groundwater in the Commonwealth is classified as GW-3.

Because the exposures are not necessarily related to each other, they are not mutually exclusive. Therefore, more than one category may be applicable to a site and/or different areas of a site.

Groundwater beneath the Property is not located within a current or potential drinking water source area. There is an occupied building at the Property, and the depth to groundwater is unknown; however, the depth to groundwater in MW105 (located approximately 10 ft north of the Property) is approximately 20 ft bgs. To be conservative we have considered depth to groundwater at the Property to be less than 15 ft bgs. Based on this information, the applicable groundwater categories for the Property are GW-2 and GW-3.

4.7 Identification of EPCs

The MCP requires that the estimation of EPCs be representative of actual and foreseeable exposures.

4.7.1 Groundwater EPCs

For a Method 1 Risk Characterization, and in accordance with 310 CMR 40.0924, "the groundwater EPC shall be the groundwater resource itself, as measured at each wellhead…" Therefore, the maximum groundwater concentrations for each COPC in monitoring well MW105 were identified as EPCs (Table 5). The location of groundwater monitoring well MW105 is shown in Fig. 2.

4.8 Comparison of EPCs to MCP Standards

A condition of NSR of harm to health, public welfare, and the environment exists if the EPCs are less than the lowest applicable MCP soil or groundwater standard.

For groundwater, the EPCs were identified and compared to the Method 1 GW-2 and GW-3 groundwater standards (Table 5). For the purposes of this risk characterization, we have conservatively assumed that the depth to groundwater at the Property is less than 15 ft bgs. The results of this comparison show that the groundwater EPCs for all COPCs are below the applicable Method 1 standards. Therefore, a condition of NSR of harm to health, public welfare, and the environment exists at the Property.

4.9 Characterization of Risk of Harm to Safety

In accordance with the MCP (310 CMR 40.0971[5]), a separate characterization of risk of harm to safety was also conducted in accordance with 310 CMR 40.0960. There are no rusted or corroded drums or containers, open pits, lagoons, or other dangerous structures at the Property; there is no threat of fire or explosion at the Property; and there are no uncontained materials which exhibit the characteristics of corrosivity, reactivity, or flammability at the Property. Therefore, a condition of NSR of harm to safety exists at the Property.

4.10 Conclusions

The Method 1 Risk Characterization for the Property concluded:

- A condition of NSR to health, safety, public welfare, and the environment exists for all receptors.
- No remedial actions are required.
- An Activity and Use Limitation (AUL) is not required to maintain a condition of NSR.

Therefore, no further action is required at the Property.

5. Representativeness Evaluation and Data Usability Assessment

The purpose of a Representativeness Evaluation and Data Usability Assessment (REDUA) is to evaluate the extent to which a data set meets specific site characterization and data usability objectives. The majority of the data on which this Class B-1 RAO-P Statement relies was evaluated under the REDUA presented in the Phase II/III, which was submitted in July 2008. However, two indoor air samples and eight additional groundwater samples have been collected since the Phase II/III, and the analytical results for some of those samples are included in the data set for this RAO-P Statement. A REDUA for these additional data is presented below. We performed the REDUA in general accordance with MassDEP Policy "WSC No. 07-350: MCP Representativeness Evaluations and Data Usability Assessments," dated September 19, 2007.

5.1 Conceptual Site Model

The CSM is presented in Section 1.6.

5.2 Field and Screening Data

Field data include physical parameter measurements we made during groundwater sampling (e.g., pH, temperature, conductivity, dissolved oxygen, etc.). We reviewed field and screening data with the associated laboratory testing reports as part of the data quality assessment.

5.3 Sampling Rationale, Distribution, and Data Completeness

Environmental samples were submitted for chlorinated VOC testing consistent with the Site history and types of chemicals stored and used at the Site. Indoor air samples were collected from the basement and first floor of the building on the Property in November 2007, June 2008, and January 2009. These sampling locations are considered to be representative of the indoor air exposures to building occupants. To characterize groundwater at the Property, GEI relied on groundwater monitoring well MW105, located approximately 10 ft north of the Property. Seventeen groundwater samples have been collected from monitoring well MW105 over an approximately 5-year period.

No data associated with conditions at the Property were rejected for quality assurance/quality control reasons. We did not identify data gaps related to sample distribution or data quality. Therefore, the data set is considered 100% complete. We did not identify inconsistent data.

Field screening results, and observations such as visual and olfactory observations, were consistent with laboratory testing results. There is little uncertainty associated with the data used to support this Class B-1 RAO-P Statement given the number of samples collected and the locations at which they were collected. All data collected were considered representative.

5.4 Data Usability Assessment

Laboratory testing data used to support this Class B-1 RAO-P Statement were generated pursuant to the MassDEP Compendium of Analytical Methods (CAM) and 310 CMR 40.1056 and meet the criteria for "Presumptive Certainty" as identified in the MassDEP Document "WSC No. 10-320: Compendium of Quality Control Requirements and Performance Standards for Selected Analytical Protocols," dated July 1, 2010. These data also are consistent with our field observations, are representative of conditions that exist or existed at the Property, and are of a level of precision and accuracy commensurate with the preparation of this Class B-1 RAO-P Statement.

5.5 Data Usability Criteria

We evaluated data for the Precision Accuracy Representativeness Completeness Comparability and Sensitivity (PARCCS) parameters as part of our field procedures, our laboratories' analytical protocols, and our in-house data review and validation process. The following groundwater data (for COPCs) obtained since the Phase II/III were qualified by the laboratory: the concentration of TCE in the sample collected from MW105 in October 2009 was qualified as being estimated due to the detection being below the laboratory reporting limit. This analytical result was considered sufficiently representative of groundwater conditions in MW105, and was included in the data set used to support this Class B-1 RAO-P Statement.

Laboratory reporting limits for COPCs considered in the risk characterization were of appropriate precision.

5.6 Statement of Suitability

In summary, the data set relied upon in this Class B-1 RAO-P Statement to characterize the conditions at the Property and perform a risk characterization is scientifically valid and defensible. It is of sufficient accuracy, precision, and completeness. In addition, the data set is representative of the spatial and temporal distribution of sampling points.

6. Class B-1 Response Action Outcome Partial Statement

Based on the results of the Phase II/III prepared for the Site, and the 142-146 Cross Street Risk Characterization, it is the LSP's opinion that a Class B-1 RAO-P Statement is appropriate for the Property because:

- Remedial actions were not conducted and a Permanent Solution has been achieved.
- A condition of NSR to human health, safety, public welfare, and the environment exists for all receptors.
- An AUL is not required to maintain a condition of NSR.

This Class B-1 RAO-P Statement is a partial RAO because it only applies to the lateral limits of the Property shown on Fig. 2.

6.1 Operation, Maintenance, and/or Monitoring

There is no operation, maintenance, and/or monitoring required at the Property.

7. Limitations

The conclusions provided by GEI in this report are based solely on the information reported in this document. Additional information which was not available to GEI may result in a modification of the conclusions stated above. This report has been prepared in accordance with generally accepted hydrogeological practices. In the event that a MassDEP audit is conducted, it is the responsibility of UniFirst Corporation, and not GEI, to respond to the MassDEP Notice of Audit Findings. No warranty, expressed or implied, is made.

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Engineering

Table 1
Chemical Testing Results - Groundwater
142-146 Cross Street
Somerville, Massachusetts

Sample Location:			MW105															
Sample Name:			MW-105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105
Well Screen Interval (ft bgs):			19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29
Sample Date:			5/24/06	10/5/06	1/17/07	4/16/07	7/19/07	10/10/07	1/9/08	4/18/08	7/14/08	10/22/08	1/12/09	4/13/09	7/14/09	10/14/09	4/12/10	4/20/11	4/17/12
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																	
Volatile Organic Compounds (VOCs)																			
1,3-Dichlorobenzene[6]			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.59 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichlorodifluoromethane[6]			< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Tetrachloroethylene (PCE)			7.8	0.69 J	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	3.4	3.2	1.5	1.5	1.6	2.2	1.7	1.7	1.8	1.7	2.3	1.6	0.78 J	1.1	1.8	1.7

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT = Not Tested.
6. Analyte is not associated with the release of chlorinated VOCs at the Site, and is therefore not a compound of potential concern (COPC). Refer to Section 4.5 of this RAO report.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.

Table 2
Chemical Testing Results - Soil
142-146 Cross Street
Somerville, Massachusetts

			Location Name:	MW105	
			Sample Name:	MW105S1	MW105S9
			Sample Depth (feet):	2 to 3	23 to 25
			Sample Date:	4/28/06	5/2/06
Analyte	**Method**	**Units**			
Volatile Organic Compounds (VOCs)	8260B	mg/kg			
Carbon tetrachloride				< 0.15	< 0.083
Chloroethane				< 0.38	< 0.21
Chloroform				< 0.15	< 0.083
1,1-Dichloroethane				< 0.15	< 0.083
1,1-Dichloroethylene				< 0.15	< 0.083
cis-1,2-Dichloroethylene				< 0.15	< 0.083
trans-1,2-Dichloroethylene				< 0.15	< 0.083
Tetrachloroethylene (PCE)				< 0.15	< 0.083
1,1,1-Trichloroethane (TCA)				< 0.15	< 0.083
Trichloroethylene (TCE)				< 0.15	< 0.083
Vinyl chloride				< 0.15	< 0.083

General Notes:

1. Only analytical results for compounds of potential concern (COPCs) are presented. For a complete list of analytes see the laboratory data sheets.
2. mg/kg = milligrams per kilogram.
3. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

Table 3
Chemical Testing Results - Subsurface Soil Vapor
142-146 Cross Street
Somerville, Massachusetts

		Location Name:	142 Cross Street			
		Sample Name:	045162-142 Cro-SS1		045162-142 Cro-SS2	
		Sample Date:	4/18/07		4/18/07	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**Residential Screening Value (µg/m^3)**				
Volatile Organic Compounds (VOCs)	TO-15					
Carbon tetrachloride[6]		38	0.69 J	0.11 J	< 1.3	< 0.20
Tetrachloroethylene (PCE)		98	6.4	0.95	3.5	0.52
1,1,1-Trichloroethane (TCA)		210	1.2	0.22	1.7	0.32

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. Residential Screening Value presented in the Massachusetts Department of Environmental Protection's (MassDEP's) Guidance "WSC No. 11-435: Interim Final Vapor Intrusion Guidance," dated December 2011.
6. Analyte is not associated with the release of chlorinated VOCs at the Site, and is therefore not a compound of potential concern (COPC). Refer to Section 4.5 of this RAO report.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 4
Chemical Testing Results - Indoor Air
142-146 Cross Street
Somerville, Massachusetts

Location Name:		142 Cross Street											
Sample Name:		142Cross-1		142Cross-B		142Cross-1		142Cross-B		142CROSS-1		142CROSS-B	
Sample Date:		11/6/07		11/6/07		6/10/08		6/10/08		1/15/09		1/15/09	
Sampling Duration:		4-hour		4-hour		4-hour		4-hour		4-hour		4-hour	
Units:		µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**												
Volatile Organic Compounds (VOCs)	TO-15												
Carbon tetrachloride[5]		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.59 J	0.094 J
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	0.68 J	0.10 J	1.1 J	0.16 J	< 1.4	< 0.20	< 1.4	< 0.20
1,1,1-Trichloroethane (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	0.71 J	0.13 J	0.98 J	0.18 J	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here.
   For a complete list of analytes see the laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. Analyte is not associated with the release of chlorinated VOCs at the Site, and is therefore not a compound of potential concern (COPC). Refer to Section 4.5 of this RAO report.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 5
Exposure Point Concentrations - Groundwater
142-146 Cross Street
Somerville, Massachusetts

			Sample Location:		MW105
			Method 1 Standards		Exposure Point Concentrations[2]
Analyte	**Method**	**Units**	**GW-2**	**GW-3**	
Volatile Organic Compounds (VOCs)	8260B	µg/l			
Tetrachloroethylene (PCE)			50	30,000	7.8
Trichloroethylene (TCE)			30	5,000	3.4

General Notes:

1. µg/l = micrograms per liter.
2. The exposure point concentrations are the maximum VOC concentration detected in monitoring well MW105.
3. Method 1 standards values are cited from the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000), dated December 14, 2007.

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This Image provided by MassGIS is taken from
U.S.G.S. Topographic 7.5 X 15 Minute Series
Boston North, MA Quadrangle, 1985.
Datum is National Geodetic Vertical Datum (NGVD 1929).
Contour Interval is 3 Meters.

Class B-1 Response Action Outcome Partial Statement 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SITE LOCATION MAP
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	July 2012 Fig. 1

N:\04516\#Drafting\04516-3\Partial RAOs\Wave 1\0451603-00- RAOP

LEGEND:

- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
- MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- PREVIOUSLY INSTALLED IRRIGATION WELL
- ▲ SOIL SAMPLE COLLECTED PRIOR TO MONITORING WELL INSTALLATION
- 84 STREET ADDRESS

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

- DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)
- INFERRED EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 50 MICROGRAMS PER LITER (µg/l)
- PORTION OF SITE SUBJECT TO THE CLASS B-1 PARTIAL RAO

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS WERE ESTABLISHED BASED ON THE GROUND SURVEYS BY BSC GROUP, INC.
4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

0 150 300

SCALE, FEET

Class B-1 Response Action Outcome Partial Statement
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

142-146 CROSS STREET - PORTION OF DISPOSAL SITE SUBJECT TO CLASS B-1 RAO

Project 04516-3 | July 2012 | Fig. 2

N:\04516\#Drafting\04516-3\Partial RAOs\Wave 1\0451603-15 142-146 Cross St

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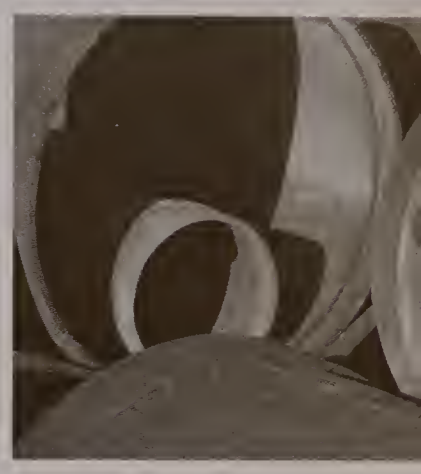

Appendix A

MassDEP Transmittal Form (BWSC-104) "Response Action Outcome (RAO) Statement"

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number
3 - 23246

For sites with multiple RTNs, enter the Primary RTN above.

A. SITE LOCATION:

1. Site Name/Location Aid: 50 TUFTS ST & PROP ACROSS THE ST

2. Street Address: 50 TUFTS ST

3. City/Town: SOMERVILLE 4. ZIP Code: 021454129

☑ 5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.

☐ a. Tier IA ☐ b. Tier IB ☑ c. Tier IC ☐ d. Tier II

6. If a Tier I Permit has been issued, provide Permit Number: W085813

B. THIS FORM IS BEING USED TO: (check all that apply)

1. List Submittal Date of RAO Statement (if previously submitted): _____ mm/dd/yyyy

☐ 2. Submit a **Response Action Outcome (RAO) Statement**

☐ a. Check here if this RAO Statement covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Tier Classified Primary RTN do not need to be listed here.

b. Provide additional Release Tracking Number(s) covered by this RAO Statement. ☐ - _____ ☐ - _____

☐ 3. Submit a **Revised Response Action Outcome Statement**

☐ a. Check here if this Revised RAO Statement covers additional Release Tracking Numbers (RTNs), not listed on the RAO Statement or previously submitted Revised RAO Statements. RTNs that have been previously linked to a Tier Classified Primary RTN do not need to be listed here.

b. Provide additional Release Tracking Number(s) covered by this RAO Statement. ☐ - _____ ☐ - _____

☑ 4. Submit a **Response Action Outcome Partial (RAO-P) Statement**

Check above box, if any Response Actions remain to be taken to address conditions associated with this disposal site having the Primary RTN listed in the header section of this transmittal form. This RAO Statement will record only an RAO-Partial Statement for that RTN. A final RAO Statement will need to be submitted that references all RAO-Partial Statements and, if applicable, covers any remaining conditions not covered by the RAO-Partial Statements.

Also, specify if you are an Eligible Person or Tenant pursuant to M.G.L. c. 21E s.2, and have no further obligation to conduct response actions on the remaining portion(s) of the disposal site:

☐ a. Eligible Person ☐ b. Eligible Tenant

☐ 5. Submit an optional **Phase I Completion Statement** supporting an RAO Statement

☐ 6. Submit a **Periodic Review Opinion evaluating the status of a Temporary Solution** for a Class C-1 RAO Statement, as specified in 310 CMR 40.1051 (Section F is optional)

☐ 7. Submit a **Retraction** of a previously submitted **Response Action Outcome Statement** (Sections E & F are not required)

(All sections of this transmittal form must be filled out unless otherwise noted above)

C. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply; for volumes, list cumulative amounts)

- [x] 1. Assessment and/or Monitoring Only
- [ ] 2. Temporary Covers or Caps
- [ ] 3. Deployment of Absorbent or Containment Materials
- [ ] 4. Treatment of Water Supplies
- [ ] 5. Structure Venting System
- [ ] 6. Engineered Barrier
- [ ] 7. Product or NAPL Recovery
- [ ] 8. Fencing and Sign Posting
- [ ] 9. Groundwater Treatment Systems
- [ ] 10. Soil Vapor Extraction
- [ ] 11. Bioremediation
- [ ] 12. Air Sparging
- [ ] 13. Monitored Natural Attenuation
- [ ] 14. In-situ Chemical Oxidation
- [ ] 15. Removal of Contaminated Soils
  - [ ] a. Re-use, Recycling or Treatment
    - [ ] i. On Site Estimated volume in cubic yards
    - [ ] ii. Off Site Estimated volume in cubic yards

iia. Facility Name: Town: State:

iib. Facility Name: Town: State:

iii. Describe:

- [ ] b. Landfill
  - [ ] i. Cover Estimated volume in cubic yards

Facility Name: Town: State:

  - [ ] ii. Disposal Estimated volume in cubic yards

Facility Name: Town: State:

- [ ] 16. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount:

b. Facility Name: Town: State:

c. Facility Name: Town : State:

- [ ] 17. Removal of Other Contaminated Media:

a. Specify Type and Volume:

b. Facility Name: Town: State:

c. Facility Name: Town: State:

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

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C. DESCRIPTION OF RESPONSE ACTIONS (cont.): (check all that apply; for volumes, list cumulative amounts)

☐ 18. Other Response Actions:

Describe:

☐ 19. Use of Innovative Technologies:

Describe:

D. SITE USE:

1. Are the response actions that are the subject of this submittal associated with the *redevelopment, reuse* or the *major expansion of the current use* of property(ies) impacted by the presence of oil and/or hazardous materials?

☐ a. Yes ☑ b. No ☐ c. Don't know

2. Is the property a *vacant* or *under-utilized commercial* or *industrial* property ("a brownfield property")?

☐ a. Yes ☑ b. No ☐ c. Don't know

3. Will funds from a state or federal brownfield incentive program be used on one or more of the property(ies) within the disposal site?

☐ a. Yes ☑ b. No ☐ c. Don't know If Yes, identify program(s):

4. Has a Covenant Not to Sue been obtained or sought?

☐ a. Yes ☑ b. No ☐ c. Don't know

5. Check all applicable categories that apply to the person making this submittal: ☐ a. Redevelopment Agency or Authority

☐ b. Community Development Corporation ☐ c. Economic Development and Industrial Corporation

☐ d. Private Developer ☐ e. Fiduciary ☐ f. Secured Lender ☐ g. Municipality

☐ h. Potential Buyer (non-owner) ☑ i. Other, describe: OTHER PRPS

This data will be used by MassDEP for information purposes only, and does not represent or create any legal commitment, obligation or liability on the part of the party or person providing this data to MassDEP.

E. RESPONSE ACTION OUTCOME CLASS:

Specify the Class of Response Action Outcome that applies to the disposal site, or site of the Threat of Release.
Select **ONLY** one Class.

☐ **1. Class A-1 RAO**: Specify one of the following:

☐ a. Contamination has been reduced to background levels. ☐ b. A Threat of Release has been eliminated.

☐ **2. Class A-2 RAO:** You **MUST** provide justification that reducing contamination to or approaching background levels is infeasible.

☐ **3. Class A-3 RAO**: You **MUST** provide an implemented Activity and Use Limitation (AUL) and justification that reducing contamination to or approaching background levels is infeasible.

☐ **4. Class A-4 RAO**: You **MUST** provide an implemented AUL, justification that reducing contamination to or approaching background levels is infeasible, and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface or below an Engineered Barrier is infeasible. If the Permanent Solution relies upon an Engineered Barrier, you must provide or have previously provided a Phase III Remedial Action Plan that justifies the selection of the Engineered Barrier.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number
3 - 23246

E. RESPONSE ACTION OUTCOME CLASS (cont.):

☑ **5. Class B-1 RAO: Specify one of the following:**

☐ a. Contamination is consistent with background levels ☑ b. Contamination is **NOT** consistent with background levels.

☐ **6. Class B-2 RAO**: You **MUST** provide an implemented AUL.

☐ **7. Class B-3 RAO**: You **MUST** provide an implemented AUL and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface is infeasible.

☐ **8. Class C-1 RAO**: You must submit a plan as specified at 310 CMR 40.0861(2)(h). Indicate type of ongoing response actions.

☐ a. Active Remedial System ☐ b. Active Remedial Monitoring Program ☐ c. None

☐ d. Other Specify:

☐ **9. Class C-2 RAO**: You must hold a valid Tier I Permit or Tier II Classification to continue response actions toward a Permanent Solution.

F. RESPONSE ACTION OUTCOME INFORMATION:

1. Specify the Risk Characterization Method(s) used to achieve the RAO described above:

☑ a. Method 1 ☐ b. Method 2 ☐ c. Method 3

☐ d. Method Not Applicable-Contamination reduced to or consistent with background, or Threat of Release abated

2. Specify all Soil Category(ies) applicable. More than one Soil Category may apply at a Site. Be sure to check off all **APPLICABLE** categories:

☐ a. S-1/GW-1 ☐ d. S-2/GW-1 ☐ g. S-3/GW-1

☐ b. S-1/GW-2 ☐ e. S-2/GW-2 ☑ h. S-3/GW-2

☐ c. S-1/GW-3 ☐ f. S-2/GW-3 ☑ i. S-3/GW-3

3. Specify all Groundwater Category(ies) impacted. A site may impact more than one Groundwater Category. Be sure to check off all **IMPACTED** categories:

☐ a. GW-1 ☐ b. GW-2 ☑ c. GW-3 ☐ d. No Groundwater Impacted

4. Specify remediation conducted:

☐ a. Check here if soil remediation was conducted.

☐ b. Check here if groundwater remediation was conducted.

5. Specify whether the analytical data used to support the Response Action Outcome was generated pursuant to the Department's Compendium of Analytical Methods (CAM) and 310 CMR 40.1056:

☑ a. CAM used to support all analytical data. ☐ b. CAM used to support some of the analytical data.

☐ c. CAM not used.

☑ 6. Check here to certify that the Class A, B or C Response Action Outcome includes a Data Usability Assessment and Data Representativeness Evaluation pursuant to 310 CMR 40.1056.

7. Estimate the number of acres this RAO Statement applies to: 0.15

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number: 3 - 23246

G. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that either an **RAO Statement, Phase I Completion Statement and/or Periodic Review Opinion** is being provided,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 9719

2. First Name: ILEEN S 3. Last Name: GLADSTONE

4. Telephone: (781) 721-4012 5. Ext.: 6. FAX:

7. Signature: ILEEN S GLADSTONE

8. Date: 7/18/2012 (mm/dd/yyyy)

9. LSP Stamp:

H. PERSON MAKING SUBMITTAL:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: UNIFIRST CORPORATION

3. Contact First Name: TIM 4. Last Name: COSGRAVE

5. Street: 68 JONSPIN RD 6. Title: SENIOR MGR EHS

7. City/Town: WILMINGTON 8. State: MA 9. ZIP Code: 018871090

10. Telephone: (978) 658-8888 11. Ext.: 4332 12. FAX:

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number
3 - 23246

I. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON MAKING SUBMITTAL:

☑ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☑ e. Other RP or PRP Specify: OTHER PRPS

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Making Submittal Specify Relationship:

J. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☐ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of an RAO Statement that relies on the public way/rail right-of-way exemption from the requirements of an AUL.

☑ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a RAO Statement with instructions on how to obtain a full copy of the report.

☑ 4. Check here to certify that documentation is attached specifying the location of the Site, or the location and boundaries of the Disposal Site subject to this RAO Statement. If submitting an RAO Statement for a PORTION of a Disposal Site, you must document the location and boundaries for both the portion subject to this submittal and, to the extent defined, the entire Disposal Site.

☑ 5. Check here to certify that, pursuant to 310 CMR 40.1406, notice was provided to the owner(s) of each property within the disposal site boundaries, or notice was not required because the disposal site boundaries are limited to property owned by the party conducting response actions. (check all that apply)

☑ a. Notice was provided prior to, or concurrent with the submittal of a Phase II Completion Statement to the Department.

☐ b. Notice was provided prior to, or concurrent with the submittal of this RAO Statement to the Department.

☐ c. Notice not required. d. Total number of property owners notified, if applicable: 112

☐ 6. Check here if required to submit one or more AULs. You must submit an AUL Transmittal Form (BWSC113) and a copy of each implemented AUL related to this RAO Statement. Specify the type of AUL(s) below: (required for Class A-3, A-4, B-2, B-3 RAO Statements)

☐ a. Notice of Activity and Use Limitation b. Number of Notices submitted:

☐ c. Grant of Environmental Restriction d. Number of Grants submitted:

☐ 7. If an RAO Compliance Fee is required for any of the RTNs listed on this transmittal form, check here to certify that an RAO Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Address/Location Aid. Send corrections to the DEP Regional Office.

☑ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number
3 - 23246

K. CERTIFICATION OF PERSON MAKING SUBMITTAL:

1. I, TIMOTHY COSGRAVE, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: TIMOTHY COSGRAVE
Signature

3. Title: SENIOR MGR EHS

4. For: UNIFIRST CORPORATION
(Name of person or entity recorded in Section H)

5. Date: 7/17/2012
mm/dd/yyyy

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section H.

7. Street:

8. City/Town:

9. State:

10. ZIP Code:

11. Telephone:

12. Ext.:

13. FAX:

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Received by DEP on

7/18/2012 3:06:56 PM

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Summary & Receipt

Print Receipt | Exit

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DEP Transaction ID: 447118
Date and Time Submitted: 7/18/2012 3:06:56 PM
Other Email :

Form Name: BWSC104 Response Action Outcome Transmittal Form

RTN: 3-23246
Location: 50 TUFTS ST & PROP ACROSS THE ST
Address: 50 TUFTS ST, SOMERVILLE, 021454129

Person Making Submittal
UNIFIRST CORPORATION
TIM COSGRAVE
68 JONSPIN RD
WILMINGTON, MA 018871090

LSP
LSP #: 9719
LSP Name: ILEEN S GLADSTONE

Person Making Certification
UNIFIRST CORPORATION
Timothy Cosgrave

,

Ancillary Document Uploaded/Mailed
BWSC-104 Ques.B4 - RAO-P Report - Uploaded (142-146 Cross Class B-1 RAO-P 2012-07-17.pdf)

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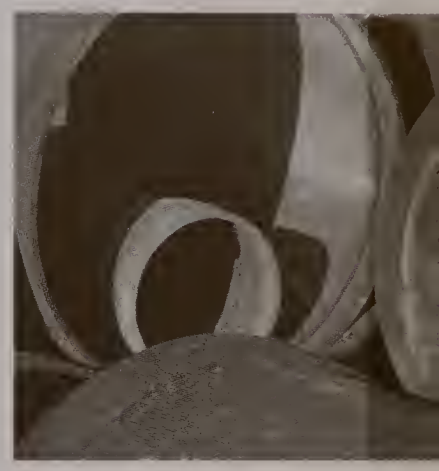
GEI Consultants

Geotechnical
Environmental and
Water Resources
Engineering



Appendix B

Public Notification Documentation

GEI Consultants

Geotechnical
Environmental
Water Resources
Ecological

July 17, 2012
Project 04516-3

Mayor Joseph A. Curtatone
Somerville City Hall
93 Highland Avenue
Somerville, MA 02143-1740

Dear Mayor Curtatone:

Re: Class B-1 Response Action Outcome Partial Statement
142-146 Cross Street
Somerville, Massachusetts
MassDEP RTN 3-23246

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. is notifying your office that a Class B-1 Response Action Outcome Partial (RAO-P) Statement has been prepared for the portion of the 50 Tufts Street disposal site identified as 142-146 Cross Street in Somerville, Massachusetts.

The conclusions of the Class B-1 RAO-P Statement include the following:

- Remedial actions were not conducted and a Permanent Solution has been achieved.
- A condition of No Significant Risk (NSR) to human health, safety, public welfare, and the environment exists for all receptors.
- An Activity and Use Limitation (AUL) is not required to maintain a condition of NSR.

The RAO-P has been submitted to the Massachusetts Department of Environmental Protection (MassDEP) Northeast Regional Office in Wilmington, Massachusetts for the above-referenced Site. A copy of the report has been provided to Mr. Vithal Deshpande, Environmental Coordinator for the City of Somerville.

If you have any questions, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Vice President

JDR/ISG:csh
c: Timothy Cosgrave, UniFirst Corporation
Vithal V. Deshpande, City of Somerville

GEI Consultants

Geotechnical
Environmental
Water Resources
Ecological

July 17, 2012
Project 04516-3

Ms. Paulette Renault-Caragianes
Director, Health Department
City Hall Annex
50 Evergreen Avenue
Somerville, MA 02145-2819

Dear Ms. Renault-Caragianes:

Re: Class B-1 Response Action Outcome Partial Statement
142-146 Cross Street
Somerville, Massachusetts
MassDEP RTN 3-23246

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. is notifying your office that a Class B-1 Response Action Outcome Partial (RAO-P) Statement has been prepared for the portion of the 50 Tufts Street disposal site identified as 142-146 Cross Street in Somerville, Massachusetts.

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Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Vice President

JDR/ISG:csh
c: Timothy Cosgrave, UniFirst Corporation
Vithal V. Deshpande, City of Somerville

GEI Consultants, Inc.
400 Unicorn Park, Woburn, Massachusetts 01801
781.721.4000 fax: 781.721.4073

CLASS B-1 RESPONSE ACTION OUTCOME
PARTIAL (RAO-P) STATEMENT
142-146 Cross Street, Somerville, MA
GEI Project No. 04516-3

BWSC
1720
SOMERVILLE
91675

For: UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887

July 17, 2012

Prepared by:
GEI Consultants

www.geiconsult.com

Geotechnical
Environmental
Water Resources
Ecological